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THE VALUE OF NAVAL MANŒUVRES.

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THE real purpose of a navy is to provide the state that maintains it with a certain necessary element of military strength. Its value as a part of governmental machinery must be finally measured by its fighting efficiency. If it has this quality, it answers the primary condition of its existence. If it has it not, it is not worth the expense of keeping up. The necessity of maintaining a force in any given state depends somewhat upon the ability of the state to avoid international disputes. But no state with vulnerable points,—namely, a commercial marine, an extensive coast line, and populous seaport cities,—can afford to be without a war navy, unless, by some method hitherto unknown to international politics, it can secure an immunity from controversy. The only substitute for such a method lies in the maintenance of a force efficient enough to make an assault upon its rights an expensive and serious business.

As fighting efficiency is the real test of the value of a navy, the most important occupation of its officers in peace is to prepare the force for those occasional but momentous crises in which it is called upon to perform its part in the national defence. In the old days of sailing-vessels this business of training was comparatively easy. The manœuvring of a ship under sail, the control and direction of a ship's company, the firing of a broadside so as to hit the mark, and, finally, the management of a squadron in accordance with certain simple tactical rules, comprised the whole mystery of the profession. In the complete preparation of officers and men for the crises of battle, the only additional requirements were the practice of the virtues of courage, obedience, and tenacity. Even ordinary sea-training was often wanting. In the time of Blake and Prince Rupert the

English fleets were commanded and fought by soldiers rather than sailors, and it was only at the end of the seventeenth century that officers of the school of Benbow, with accomplishments distinctly nautical, resumed their place in the front ranks of the service. Down to the early part of the present century the sum total of necessary professional knowledge was exceedingly slight and simple.

Since the year 1840 the character of the naval profession in this respect has completely changed. Not only has the introduction of steam as a motive power made the ship an immense piece of complicated machinery, but a great variety of contrivances, in the shape of new weapons, means of defence, torpedo outfits, appliances for lighting, for steering and manœuvring, for signals, for pointing and firing guns, and for other purposes, have called into play nearly every branch of physical and mechanical science, and made a knowledge of these branches a necessity. The marine engine, the ram, the rifled gun, the machine gun, the dynamo, the higher explosives, armor, and torpedoes have increased enormously the variety and complexity of naval operations. Commerce-destroying in fast steamers has been reduced to a science. Blockades, which in the old days any fairly good seaman was competent to maintain, have now become a difficult and intricate problem. Operations on rivers and inland waters, which formed so large a part of the work of the navy during the Civil War, present questions of exceptional interest and difficulty. The science of torpedo attack and defence under all the various circumstances which lend themselves to the use of this novel weapon has opened out a new art of war, whose ultimate developments no man can foresee or calculate. The success which has attended the employment of sailors as land troops upon certain occasions demonstrates that a navy must now have an organization elastic enough to meet the demands of this branch of service. Ascending from these special questions into the higher field of grand tactics or strategy, the properly-trained officer must know intimately the offensive and defensive capacity of vessels, not, as formerly, of half a dozen well-defined types, but of every variety of armament and structure ; he must evolve methods of operating against and of protecting a coast ; he must ascertain the proper distribution of naval resources ; he must consider the question of the provision of a coal supply ; the value of speed as a factor in warfare in general, as well as in the force of any given ship; the best points for attack or defence,—all of them questions involving close study and observation, as well as experience.

While the navy is always presumably occupied in preparation for war, its activity may be exerted in two distinct directions. The incessant international competition in the development of naval material makes it necessary for the organization to devote its energies quite as much to keeping the instruments of war in an advanced stage of progress as to being able to use the materials to advantage when they have been obtained. The naval officer has, therefore, two objects before him : he must perform his part in contributing to the mechanical progress of the navy, and he must be able to fight when the occasion comes. Until within a period comparatively recent, the tendency has been to turn most in the first of these directions, because it represented the matter in hand, the thing obviously to be done, promising immediate results in a conspicuous form. The result has shown itself in the enormous strides made since the beginning of naval reconstruction, in 1882. Now, however, when the new ships are becoming available for service, the time has come to train the navy in using them as fighting weapons. Without such a system of special training the government might find itself in the position of having a first-class fleet which was almost useless through a failure to educate officers in the conditions of actual war. They would know the workshop, but not the field of battle. Nor would the customary alternations of shore and sea service remove the difficulty. Officers whose experience was thus limited might become experts in ordinary cruising, but ordinary cruising is not war, nor will it take the place of the training which modern war requires.

Fighting capacity is largely a matter of aptitude ; and in the acquisition of it, as of any other aptitude involving moral and physical qualities, individuals differ greatly. Some men acquire a knack by intuition ; they become riders as soon as they jump into the saddle, as they become good shots or expert anglers the moment a gun or a rod is placed in their hands. Others accomplish the same results only after long and troublesome effort. Such men may attain facility through experience ; and when men are endowed with a fair amount of nervous energy, experience that is sufficiently varied and continuous can almost be made to take the place of an instinct. The most effectual way of giving this experience to a naval force is in actual war. It makes the difference between the veteran and the raw recruit. But as we cannot have a war in every decade for the sake of gaining experience, some substitute must be provided which shall contribute as far as possible to making veterans of our officers and men.

To accomplish this requires a double process. In the first place, the officer must familiarize himself with the details of modern naval operations. Until lately not much attention has been given to this subject. In fact, it is only within a short time that naval strategy as a distinct science has been made the subject of systematic study. The experience of our navy in the Civil War was of the most comprehensive, long-continued, and varied character, and was the first in which operations had been conducted on a great scale since the revolution in naval science. Other naval wars, not so extensive, but equally instructive, from the fact that they made use of more modern apparatus, have taken place since then; and the publications of the Office of Naval Intelligence and the lectures of the Naval War College, both of which were begun at a moment when naval reconstruction had just made a fresh start, mark a new stage in the development of this branch of naval training.

The second, and by far the most important, essential in the preparation of naval officers for war is practice with the tools of their profession—and, be it remembered, these must be modern tools or the practice is useless—in operations carried on as nearly as may be under the conditions of actual war. Of course practice of this kind has its limitations. It is not possible, for instance, in a sham fight to be firing shot and shell; and therefore the killing and wounding which form such an essential feature of actual war are eliminated. Learning to stand fire is a lesson that cannot be taught in perfection by anything short of a *bonâ-fide* battle. Discipline and the cultivation of a high *morale* will help to secure it, and in a general way sham engagements may contribute to the same end, by familiarizing officers and men with the conditions under which the dangers of combat will be faced; but this is not their main purpose. Nor will they serve the purpose of a gunnery test, for the obvious reason that you cannot use one-half of your own ships and people as a target for the other half. This practice must be obtained by other methods, which, however, are sufficiently easy of application. In the use of torpedoes, again, the sham fight has a restricted scope, although it is possible to measure results with a fair degree of accuracy by artificial tests without actually blowing up an occasional ironclad; and much the same may be said in regard to the ram.

These limitations, however, are all that distinguish the process of mimic war from real war; and essential as the difference may be in its effect on the feelings of the participants, it cannot destroy the value of the first as a practical training for the second. In the first place, the whole organization is put to the test of conducting an actual campaign. The mere matter of mobilization, which in former times was comparatively simple and unimportant, has come to be of extreme difficulty, and at the same time of enormous consequence, when the first three weeks may determine the issue of a war. To see the condition of a navy which has been ten or a dozen years at peace, and during that time has had no practice in rapid mobilization, we have only to look at our experience in 1861, when it took us eight months to gain a mere foothold upon four thousand miles of unprotected coast belonging to an enemy absolutely destitute of maritime resources.

When the squadrons are once mobilized, and the practice manœuvres reach the stage of a campaign with two hostile forces arrayed against each other and engaged in working out a specific problem of war under given conditions, there is hardly any point in the whole range of naval operations that will not receive attention and observation. Each of these makes demands upon officers and men identical with those of actual war, barring always the presence of danger, and calls for the same alertness of judgment, the same untiring energy, the same ready resource, the same quickness of eye and clearness of intelligence.

The value of sham battles, or war manœuvres, as they may be more properly called, is well understood by the most progressive maritime states, and in the navies of these states they have become a regular feature of the yearly administrative programme. The operations conducted in this way by the English, French, Italian, and German governments during the last few years are full of interest and instruction, and illustrate perfectly the advantages and the limitations of this sort of practice. To see exactly how the work is done it may be well to look at some of these a little in detail, and especially at those of the British in recent summers, which were carefully planned with a view to elucidating the problems of naval strategy likely to arise when Great Britain is at war.

In the manœuvres of 1887 several successive operations were arranged, the principal scene of which was in the Channel. In the prescribed conditions it was supposed that an ironclad squadron of defence, commanded by Sir William Hewett, had lost touch of an enemy's squadron, under Rear-Admiral Fremantle, of nearly equal force, which was seeking to make a descent upon some point along the Channel coast, but at the same time to avoid an engagement with the defenders. The two squadrons consisted each of five battle-ships, with two fast cruisers as scouts. Under the rules governing the contest, ten hours of uninterrupted possession of the entrance to a seaport were held to be equivalent to an occupation.

Admiral Hewett's business was to prevent the enemy's threatened occupation. He could not tell where the blow would be struck, and his force was accordingly arranged between Portland and Cape La Hague, stretching out to the westward. This left unprotected the important town of Falmouth, but as it was only about 100 miles west of the line of defence, and as extensive arrangements had been made for telegraphing, it seemed fairly well covered. Nevertheless, the enemy's squadron, under Admiral Fremantle, steered directly for Falmouth and succeeded in maintaining its position there for ten hours of daylight. Its scout vessel, the "Archer," was sent to the eastward, skilfully disguised, and kept up communication with the squadron through an intermediate scout. Admiral Hewett learned that Fremantle was approaching Falmouth, but the information, though telegraphed from the Lizard, was nearly five hours in reaching him, and it was then so uncertain that he waited four hours more for further news. By the time he was well under way for Falmouth, Fremantle had departed, and the latter's scouts, still disguised, watched the squadron of defence on its way to the westward.

Fremantle now had the coast clear and passed up the Channel. When Hewitt discovered that the enemy had given him the slip, he retraced his course with all speed. He could not discover the exact position of the assailants, but he knew that they had several hours' start, and the campaign now became an exciting pursuit up the Channel. In this operation three of the pursuers broke down. Admiral Fremantle was therefore still well in advance. At night he was going through the narrowest part of the Channel. This point was defended by a flotilla, composed of an armored coast-defence ship and several gunboats and torpedo-boats. In a real war he would probably have destroyed the flotilla, but it would have involved a delay of two hours or more. Disposing of these antagonists in a rather abridged engagement, he moved on to the northward and came to anchor at the mouth of the Thames. Only two of the requisite ten hours had elapsed when the squadron of Admiral Hewett came up with him. Fremantle then stood to the northward to pass out into the North Sea through the East Swin Channel. Hewett, still in pursuit, steamed through a parallel channel called the Black Deep, which was separated from the Swin by a shoal, and which was too narrow to permit ships to turn. Taking advantage of this fact, and of the state of the tide, Admiral Fremantle conceived the brilliant idea of turning himself up the Thames, crossing the shoals as the tide was ebbing, and leaving his pursuers to continue on their way to the end of the Black Deep, where their pursuit was further delayed by the fall of the tide. It was finally decided by the umpires that the attacking squadron was captured in the Thames. But there is no doubt that in actual war it would have had a good chance of escape, and it had already inflicted irreparable injury upon the enemy.

This series of manœuvres, which occupied ten battle-ships, with a number of subsidiary craft, for four days, was full of important lessons, not only for the general direction of the Admiralty, but for every officer and man of the squadrons. It threw new light on the problem to be solved in the defence of the English coast. It indicated precisely where the arrangements for securing information were defective—a point of the highest importance where the game was not so much one of heavy blows as of making successful efforts to elude. It showed the necessity of lightly-armed and swift vessels to serve as scouts or outposts for the main body, and that the possession of two such scouts would not answer the purpose. At the outset each commander exercised his ingenuity in deceiving the other, and each endeavored, according to his lights, to ascertain his opponent's plans. Admiral Hewett left Falmouth uncovered, fearing that the enemy might pass Cape La Hague without his knowledge ; in which case all the approach to the eastward would have been unprotected. The enemy took advantage of this, and so got possession of Falmouth. A little more promptness in the service of information would perhaps have shortened his stay there. The practice gained by the lookout vessels was of immense value. The captains of such ships must rely largely upon their own judgment. No orders can be given that will exactly cover the situation in which they are placed. So, too, with all the other incidental features of the campaign. The trials of speed, the repair of breakdowns in machinery, the utilizing of makeshifts to accomplish a result with imperfect or damaged materials, the methods of approach of torpedo-boats, and the precautions necessary to keep them off—all these were sooner or later brought into play, and called for prompt decision and action from each commander and each ship's company.

The naval manœuvres of 1888 were conducted upon a much more extensive scale, and accomplished proportionately greater results. The plan of the Admiralty contemplated the rapid mobilization of a great naval force for a war of four weeks' duration upon the English coast. A great maritime power, christened for the occasion by the name of "Achill," whose geographical locus, for strategic purposes, is Ireland, is supposed to fit out two squadrons, which are lying in port in expectation of a war with England. Sir George Tryon, the Achill commander-in-chief, with five battle-ships, is at Berehaven, in Bantry Bay, on the south-western coast of Ireland, or Achill, and Admiral Fitz Roy, his second in command, with four, at Lough Swilly, on the northern coast. Each squadron has also five cruisers. Before these squadrons can complete their preparations war breaks out, and two powerful British squadrons—one under Vice-Admiral Baird, with seven battle-ships and seven cruisers ; the other under Rear-Admiral Rowley, with six battle-ships and six cruisers—blockade the Achill forces in their respective ports, both of which are supposed to be strongly fortified. Each side has, in addition, twelve torpedo-boats. War is declared by telegram July 24, and is announced to close August 20.

This being the condition of affairs at the outbreak of the war, the obvious plan of operation of the Achill squadrons was to break the blockade with a part of their forces, and, while the blockaders were still occupied with the remainder, to start on a cruise of devastation against British commerce and seaports, of course excluding Ireland, which was Achill territory. In order that the escape of the Achill ships might not take place too early and thus defeat one of the main objects of the manœuvres, namely, to obtain practice in blockading, Tryon and Fitz Roy were privately instructed that no ship was to go out, in any case, before the 2d of August. The first ten days were therefore taken up in slight encounters by day and brisk attacks by the blockaded torpedo-boats at night, which gave the blockaders incessant harassing occupation, as they were ignorant of the fact that no attempt would be made to escape. The attacks were far from being mere feints; and in one of them the "Inconstant," of the blockading fleet, was torpedoed (in imagination). Certain of the torpedo-boats on one side or the other were also put out of action.

As soon as the prescribed time was up, the Achill commanders did not lose a moment in breaking away. On the night of the 3d, at Berehaven, simultaneous movements were made by nine of the blockaded ships in different parts of the harbor. The "Archer," of the British fleet, was guarding one of the entrances, and, while she was attacked by four torpedo-boats so smartly as to engross her attention, the enemy's ships "Warspite," "Iris," and "Severn" steamed along close to the high land at full speed and with all lights out, and so managed to pass the blockade unobserved. As soon as Baird learned that these three were at large, he apparently gave up all thought of maintaining any further blockade, or even of attempting a general defence of the coast. "Save London" was the one idea in his mind, and to this he bent all his energies. Orders were sent to Rowley to raise the blockade of Lough Swilly and join with his squadron at Luce Bay, off the Scottish coast, and thither Baird himself proceeded. The two squadrons met at midnight on the 5th. Rowley was obliged to report a similar failure in his blockade, for already on the night of the 2d, the first after the restriction had been removed, the Achill cruiser "Calypso" had stolen out of Lough Swilly unobserved, and on the 4th Fitz Roy himself, with the "Rodney," "Amphion," and "Spider," had followed—a fact which, as the official narrative tersely puts it, "the British admiral knew nothing of till the next morning."

The situation was now critical. Seven Achill vessels, two of them battle-ships, had escaped, and the British admiral had not the faintest clew to their projected movements. They would undoubtedly ravage the coast of Great Britain, and they had a start of from one to four days ; but where would they strike their first blow ? Unable to answer this question, Admiral Baird was confirmed in his decision that, as he could not protect all points, he would at least make that secure where there was most to lose, and set out for London, via the Channel. On the 6th he dropped Rowley's division off Holyhead, to watch Liverpool from that point, and proceeded alone ; but the next day, learning that Fitz Roy, with his two ironclads, had been sighted to the north of Scotland, he telegraphed Rowley to rejoin him. The latter complied, leaving two ironclads, the "Neptune" and "Belleisle," for the defence of Liverpool. This was on the 7th, but the two squadrons, delayed by fog and by the necessity of stopping for coal, did not unite in the Downs until the 12th.

Meantime the seven Achill vessels which had made their escape had entered upon an active career of supposititious devastation. The "Calypso," which had been the first to get out,—on the 2d of August,—started on an independent roving cruise. First she ran into Port Ellen, a telegraph station of Baird's squadron, where she captured one of his torpedo-boats and destroyed three steamers and the coal stores. Thence she hastened to Oban, where she remained during the night of the 3d, in which she requisitioned the town and captured a one-gun battery and several more steamers. For the next fortnight she cruised in the track of British commerce, and in that time captured 60,000 tons of shipping. Finally she put into Penzance, where she captured the coast-guard station.

Of the three vessels that left Lough Swilly on the 4th, the "Amphion" cruised undisturbed in the Channel, capturing much shipping. Another, the "Spider," devoted her attention to the west coast of Scotland, and in the course of three days carried the war to every accessible point in that neighborhood. At Campbelltown 5,000 tons of shipping were destroyed ; at Rothesay five steamers were sunk ; while at Greenock the shipping in the Clyde, amounting to 32,000 tons, was annihilated, and the public buildings on the quay were pulverized by the cruiser's fire. Thence she proceeded northward, inflicting like havoc wherever she went, The third of the Lough Swilly fugitives, the battle-ship "Rodney," with Admiral Fitz Roy on board, met the three vessels from Berehaven, the "Warspite," "Iris," and "Severn," at a preconcerted rendezvous, two nights after their escape, and the new flying squadron, doubling the northern end of Scotland, pounced upon Aberdeen at daybreak of the 7th. A requisition of £400,000 was levied on the town and all the shipping was destroyed. Moving rapidly down the coast, Fitz Roy carried out a similar programme successively at Edinburgh (Leith), Shields, Newcastle, Hartlepool, Scarborough, and Grimsby. After bagging £5,000,000 in requisitions, levying extensive contributions of coal and provisions, and destroying immense quantities of unprotected shipping, Fitz Roy retraced his course, and on the 12th of August returned triumphantly to Lough Swilly without having met, since his escape eight days before, a single one of the thirty-six vessels of the squadron of defence, whether armor-clad, cruiser, or torpedo-boat.

Meanwhile, the blockade having been raised, the two Achill squadrons had effected a junction at Lough Swilly, and on the 8th Sir George Tryon sailed with five battle-ships to attack Liverpool. It will be remembered that only the "Neptune" and "Belleisle" had been left to defend this port, only second to London in importance. When Tryon's column came in sight, the "Neptune" was cruising off the bar, and wisely took to her heels. The unfortunate "Belleisle," however, was caught at anchor while taking on coal, and after a short conflict hauled down her colors. The town was then heavily requisitioned and the shipping destroyed. After "rummaging" the port of Holyhead, the Achill squadron returned to Lough Swilly, where it was joined, as already stated, on the 12th, by Admiral Fitz Roy's vessels.

The remainder of the war presented no striking incidents. The Achill squadron was compelled to use up four days in coaling, the great stumbling-block in all modern naval operations, and at the end of that time sailed for the Channel. Baird was still in the Downs, covering the mouth of the Thames, from which he dared not move. Some of the Achill vessels were engaged in commerce-destroying cruises, but the main force was moving unresisted up the Channel, when peace was declared on the 20th of August.

The manœuvres of 1888 had the effect of pointing out with great clearness certain elements of strategic weakness in the arrangements for the national defence. The results accomplished by the Achillese, in their imaginary requisitions, captures, and conflagrations, were sufficiently alarming, even when stripped of all sensational exaggeration. No war ministry could survive the commercial panic that such a catalogue of disasters would produce. The manœuvres also served to discover several serious defects in organization and equipment, which had until then passed unnoticed. But their most important effect was to work into coherent unity, during four weeks of the most active service, whatever was heterogeneous in the organization of the fleet, and, by narrowing action down to a definite object, to give point and purpose to what would otherwise be a mere routine exercise. It is in this way as much as in any other that manœuvres are superior to ordinary drill.

Here was a force of officers and men, larger than the whole United States Navy, engaged in operations which, apart from the element of personal danger, were identical in all their minute details with those of real war. The disposition of the blockaded squadrons to ward off attack, and of the blockaders to prevent egress, was exactly the same that their commanders would have employed against a real enemy. They were the best that each could devise according to his judgment. The maintenance of communication between scouts and the main body of the fleet, the coaling of vessels at sea, the discovery of an enemy's plans and movements, the conveyance of information to ships and forts by signals, all the thousand-and-one minutiæ upon the proper observance of which by individuals so much depends in naval operations, were carried out with the same exacting precision that a war would call for. In torpedo attacks the assailants had to gauge their speed and judge their aim and distance, while the defenders needed all their quickness of eye and of hand to discover their opponents and bring to bear their rapid-fire guns. It was drill, no doubt, but drill with a definite purpose, under the unforeseen and unforeseeable conditions of battle, and with all the rivalry of contest, if not of combat, superadded.

The manœuvres of 1889 were carried out on a scale quite as large as those of the previous year, and included fifty ships and gunboats and thirty-eight torpedo-boats. All these were present at the inspection at Spithead, in addition to the Channel Squadron and other vessels in commission, to the number of seventy-three in all. The mimic war lasted two weeks, from the 15th to the 27th of August, and Ireland was again the enemy's country. Tryon and Baird were still the opposing commanders, but this time Tryon took the British side, and Baird that of the enemy.

Instead of attempting to neutralize the enemy's fleet by a blockade, which the experience of 1888 had shown to be futile, the plan of the British defence was to "mask" the enemy's fleet; that is, to take and hold a strategic position in face of it, altering this position as circumstances required, and thereby interposing a perpetual barrier against attack from whatever quarter. The result showed the immense advantages of this plan over the other.

The defending fleet was near its own base, not only of supplies, but, what was of greater importance, of information. The defects of the intelligence service of previous years were remedied by a telegraphic system comprising eight local centres on the coast, connecting with the main centre at the Admiralty, by means of which any vessel moving within the range of an observer's view at any point on the coast was instantly reported in London; and the fact was with almost equal promptness conveyed to the commander-in-chief.

Two principal attempts were made by the enemy, one to pass up the Channel, the other to assail the Scotch and English coast from the North Sea. The first of these, which had London for its objective point, was a failure, and resulted in the capture by the British of two of the assailants' ships, after a warm and protracted engagement. Admiral Baird was severely criticised for the plan of this attack, and with good reason, for he had several fine strategic openings, all of which he neglected or rejected, to carry out a plan of attack too obvious to deceive, too deliberate to surprise, and too feeble to accomplish its purpose by sheer weight of blows.

The other attempt—a raid on the eastern coast by ships passing around the north of Scotland—was somewhat like Fitz Roy's attack of the year before, and wrought equal havoc upon the seaport towns, the squadron exacting heavy ransoms as the price of immunity. The perfected system of conveying intelligence, however, enabled the defending fleet to meet the attack more promptly, and the result was that the raiders left two of their best ships in the British hands. The fact that they had secured £3,000,000 in "requisitions" from Edinburgh and the other towns on the coast would not make up wholly for the loss of the vessels at a turning-point in the war, when ships were worth far more than money.

The losses of British commerce, notwithstanding the adoption of stricter rules governing detention and capture of prizes, were enormous, amounting to 170,000 tons. The fact was clearly demonstrated that more effectual measures must be taken in case of a war with a maritime power, if Great Britain would seek to defend her commerce at her own doors. Sir George Tryon needed all his cruisers to serve as lookouts and obtain information. He had none to spare for the protection of merchant vessels. Of course the latter made no particular effort to escape from their supposed antagonists; in fact, they carried on their usual occupations on their usual routes precisely as if no war were in progress. But even allowing that one-half of those captured by Baird's cruisers might have made good their escape, the destruction of the remaining half, amounting to 85,000 tons, in two weeks, would have an effect, in actual war, upon marine insurance, freights, the food supply, and the movement of trade in the United Kingdom, that would, unless speedily checked, bring on a colossal financial disaster and go far to put an end to the war.

The general effect of the third series of manœuvres was similar to that of the first two, but in a higher degree. Many of the defects in reference to mobilization, coal supply, information, training of officers and men, and other points, which the earlier attempts had developed, were in a large part corrected. The whole machinery of the Admiralty organization was put to the test of practical working, and a large proportion of the officers and men of the navy got that kind of practical experience which, though it cannot be said to make veterans, gives a familiar insight into the duties that devolve upon naval forces in actual war.

The advantage which the English navy has derived from its manœuvres is conceded on all hands, and the question naturally arises, In what way can our own navy get a similar training? Until a recent period it was in vain to ask the question, for the navy had no ships in which manœuvres of any kind could be attempted. But the time is now not far distant when it will have a sufficient number of modern vessels to enable it to make a beginning, and the work of reconstruction will continue until we have a respectable fleet. Meantime we must labor with what we have. Provision has already been made for pursuing the study of naval strategy as a science : it will only remain, as soon as a sufficient number of modern ships are available, to put the study into practice. For some time to come any manœuvres would necessarily be on a small scale ; they would be measured by the capacity of the fleet. As the fleet reaches its normal standard, their scope could be proportionately enlarged, and they would then become what they are to-day in the more efficient foreign navies—the most important event in the yearly programme of operations.

To say at the present time that this study and practice are beneficial to a navy is mere commonplace : they are absolutely indispensable. A force that drags along a merely routine existence without them is behind the times, and under the pressure of war would be heavily handicapped. It makes little difference what the system of training is called,—a war college or a school of application for the study of the history and principles of strategy, a series of "sham battles" or naval manœuvres, or evolutions for practice,—but under some name or other, and in some vitalized and practical way, a navy must get its training in *war*. The old theory of squadron-cruising, in accordance with which a large force was maintained upon each of several foreign stations, where it lay for a great part of the time in port, and during the remainder cruised aimlessly about, is a thing of the past. Some force undoubtedly must continue to be maintained at certain points at all times, but the true place for a naval force in time of peace is in the waters that wash the shores of its own country. It is here that it should gain the practice that will enable it successfully to defend these shores when they are attacked. It is here that opportunities may be given to coöperate with and train the naval militia of the States, which is certain to become, in the near future, a highly important element in naval defence. It may be added, as an incidental advantage, that it is among its own people that the appropriations for the maintenance of the service can best be expended. For these purposes the true organization is a squadron of evolution, engaged, under conditions copied closely from those of real war, in the actual solution of the problems to which war would give rise—problems in fleet operations, in blockading and in evading a blockade, in torpedo attack and defence, in the attack and protection of harbors, in chasing and escaping from a chase, in coaling, ruses, learning the plans and movements of an enemy, landing parties, commerce-destroying—the innumerable details of modern naval campaigns towards which all the ordinary peace cruising in the world will furnish no experience.

That Americans have as good a natural fighting capacity as any other people in the world was amply shown in the Civil War. But for success in war against trained enemies they must also have training. The landing of Paul Jones at Whitehaven—the only invasion of English territory in modern times—was brilliantly conceived and boldly executed by an American naval force; but it proved a failure, solely because Jones and his people were imperfectly trained in this sort of work. The war of 1812 was a succession of conspicuous victories at sea, and equally conspicuous disasters on land; and here again the reason for the difference lay in the thorough professional training of one branch and the total absence of training in the other. The real hero of the great naval war was not Hull or Decatur or Macdonough, or any of the others who won its victories. It was Edward Preble, who, in the lesser war with Tripoli ten years before, had formed the men, almost without exception, by whom the later victories were won. The navy that we require to defend our coast to-day is a navy composed, like that of 1812, first of all of Americans, of men imbued with the national sentiment, and, secondly, of men who have been thoroughly trained to their business. Given such a force, with modern ships and weapons, and enough of them, and the maritime defence of the United States will cease to be a doubtful and disturbing question.

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